UNITED STATES PATENT AND TRADEMARK OFFICE

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/852,881	05/10/2001	Sindhu Joseph	H00-01600 (256.095US1)	5167

128   7590   07/21/2004

HONEYWELL INTERNATIONAL INC.
101 COLUMBIA ROAD
P O BOX 2245
MORRISTOWN, NJ 07962-2245

EXAMINER
GARG, YOGESH C

ART UNIT	PAPER NUMBER
3625	

DATE MAILED: 07/21/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

	Application No.	**Applicant(s)**
Office Action Summary	09/852,881	JOSEPH ET AL.
	Examiner	**Art Unit**
	Yogesh C Garg	3625

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) FROM
THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed
  after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
  Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any
  earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *10 May 2001*.
2a)☐ This action is **FINAL**.   2b)☒ This action is non-final.
3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is
closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-36* is/are pending in the application.
   4a) Of the above claim(s) _____ is/are withdrawn from consideration.
5)☐ Claim(s) _____ is/are allowed.
6)☒ Claim(s) *1-36* is/are rejected.
7)☐ Claim(s) _____ is/are objected to.
8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.
10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.
   Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
   Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
   a)☐ All b)☐ Some * c)☐ None of:
   1.☐ Certified copies of the priority documents have been received.
   2.☐ Certified copies of the priority documents have been received in Application No. _____.
   3.☐ Copies of the certified copies of the priority documents have been received in this National Stage
      application from the International Bureau (PCT Rule 17.2(a)).
   * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
   Paper No(s)/Mail Date *2*.

4) ☐ Interview Summary (PTO-413)
   Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____ .

U.S. Patent and Trademark Office
PTOL-326 (Rev. 1-04)   Office Action Summary   Part of Paper No./Mail Date 3

DETAILED ACTION

Claim Rejections - 35 USC § 101

1.   35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

Claims 1-18 are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter.

   1.1. **Claimed Invention(s) does not fall within the Technological Art.**

As an initial matter, the United States Constitution under Art. I, §8, cl. 8 gave Congress the power to "[p]romote the progress of science and useful arts, by securing for limited times to authors and inventors the exclusive right to their respective writings and discoveries". In carrying out this power, Congress authorized under 35 U.S.C. §101 a grant of a patent to "[w]hoever invents or discovers any new and useful process, machine, manufacture, or composition or matter, or any new and useful improvement thereof." Therefore, a fundamental premise is that a patent is a statutorily created vehicle for Congress to confer an exclusive right to the inventors for "inventions" that promote the progress of "science and the useful arts". The phrase "technological arts" has been created and used by the courts to offer another view of the term "useful arts". See In re Musgrave, 167 USPQ (BNA) 280 (CCPA 1970). Hence, the first test of whether an invention is eligible for a patent is to determine if the invention is within the "technological arts".

Further, despite the express language of §101, several judicially created exceptions have been established to exclude certain subject matter as being patentable subject matter

covered by §101. These exceptions include "laws of nature", "natural phenomena", and "abstract ideas". See Diamond v. Diehr, 450, U.S. 175, 185, 209 USPQ (BNA) 1, 7 (1981). However, courts have found that even if an invention incorporates abstract ideas, such as mathematical algorithms, the invention may nevertheless be statutory subject matter if the invention as a whole produces a "useful, concrete and tangible result." See State Street Bank & Trust Co. v. Signature Financial Group, Inc. 149 F.3d 1368, 1973, 47 USPQ2d (BNA) 1596 (Fed. Cir. 1998).

This "two prong" test was evident when the Court of Customs and Patent Appeals (CCPA) decided an appeal from the Board of Patent Appeals and Interferences (BPAI). See In re Toma, 197 USPQ (BNA) 852 (CCPA 1978). In Toma, the court held that the recited mathematical algorithm did not render the claim as a whole non-statutory using the Freeman-Walter-Abele test as applied to Gottschalk v. Benson, 409 U.S. 63, 175 USPQ (BNA) 673 (1972). Additionally, the court decided separately on the issue of the "technological arts". The court developed a "technological arts" analysis:

The "technological" or "useful" arts inquiry must focus on whether the claimed subject matter...is statutory, not on whether the product of the claimed subject matter...is statutory, not on whether the prior art which the claimed subject matter purports to replace...is statutory, and not on whether the claimed subject matter is presently perceived to be an improvement over the prior art, e.g., whether it "enhances" the operation of a machine. In re Toma at 857.

In Toma, the claimed invention was a computer program for translating a source human language (e.g., Russian) into a target human language (e.g., English). The court found that the claimed computer implemented process was within the "technological art" because the claimed invention was an operation being performed by a computer within a computer.

The decision in State Street Bank & Trust Co. v. Signature Financial Group, Inc. never addressed this prong of the test. In State Street Bank & Trust Co., the court found that the

"mathematical exception" using the Freeman-Walter-Abele test has little, if any, application to determining the presence of statutory subject matter but rather, statutory subject matter should be based on whether the operation produces a "useful, concrete and tangible result". See State Street Bank & Trust Co. at 1374. Furthermore, the court found that there was no "business method exception" since the court decisions that purported to create such exceptions were based on novelty or lack of enablement issues and not on statutory grounds. Therefore, the court held that "[w]hether the patent's claims are too broad to be patentable is not to be judged under °101, but rather under §§102, 103 and 112." See State Street Bank & Trust Co. at 1377. Both of this analysis goes towards whether the claimed invention is non-statutory because of the presence of an abstract idea. Indeed, State Street abolished the Freeman-Walter-Abele test used in Toma. However, **State Street never addressed the second part of the analysis, i.e., the "technological arts" test established in Toma because the invention in State Street (i.e., a computerized system for determining the year-end income, expense, and capital gain or loss for the portfolio) was already determined to be within the technological arts under the Toma test. This dichotomy has been recently acknowledged by the Board of Patent Appeals and Interferences (BPAI) in affirming a §101 rejection finding the claimed invention to be non-statutory. See Ex parte Bowman, 61 USPQ2d (BNA) 1669 (BdPatApp&Int 2001).**

In the present application, Claims 1-18 recite manipulative steps of receiving queries, extracting keywords from queries and FAQ database, transforming keywords to numerical representations, applying algorithms, translating the queries to text, normalizing values, etc. but do not recite the use of any technology in executing them and realizing the results. Therefore, all the recited steps amount to an abstraction and not being able to produce a concrete, tangible and useful result from the claimed steps. Therefore, the claims are directed towards non-statutory subject matter. To overcome this rejection the Examiner recommends that Applicant

amend the claims to better clarify which of the steps are being performed within the

technological arts, such as incorporating/integrating a computer/software/hardware computer

network or electronic network functionally with manipulative steps recited in the claims.

Claim Rejections - 35 USC § 103

2.   The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all

obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set
> forth in section 102 of this title, if the differences between the subject matter sought to be patented and
> the prior art are such that the subject matter as a whole would have been obvious at the time the
> invention was made to a person having ordinary skill in the art to which said subject matter pertains.
> Patentability shall not be negatived by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of

the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of

the various claims was commonly owned at the time any inventions covered therein

were made absent any evidence to the contrary. Applicant is advised of the obligation

under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was

not commonly owned at the time a later invention was made in order for the examiner to

consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g)

prior art under 35 U.S.C. 103(a).

Claims 1-36 are rejected under 35 U.S.C. 103(a) as being unpatentable over

Rhodes et al. (US Patent 6,236,768), hereinafter, referred to as Rhodes and further in

view of Shah et al. (US Patent 4,862,402), hereinafter, referred to as Shah.

Regarding claim 1, Rhodes teaches a method for providing customer

support for a product (see at least col.1, lines 30-54, " *Systems designed for information*

retrieval generally function in response to explicit user-provided queries.......The utility of the RA stems

from the fact that currently available desktop computers are fast and powerful, so that most processing

time is spent waiting for the user to hit the next keystroke, read the next page, or load the next packet off

the network. The RA utilizes otherwise-wasted CPU cycles to perform continuous searches for

information of possible interest to the user based on current context, providing a continuous, associative

form of recall. ". Note: The system disclosed in Rhodes can be used in providing

customer support for a product by receiving a textual query for a product from a

customer and based on this query retrieving the information in which the customer is

interested. See also col.13, lines 41-48), comprising:

receiving one or more queries regarding a product from a customer (see at least

col.1, lines 30-54, " *Systems designed for information retrieval generally function in response to*

explicit user-provided queries.......The utility of the RA stems from the fact that currently available

desktop computers are fast and powerful, so that most processing time is spent waiting for the user to hit

the next keystroke, read the next page, or load the next packet off the network. The RA utilizes

otherwise-wasted CPU cycles to perform continuous searches for information of possible interest to the

user based on current context, providing a continuous, associative form of recall. ". Note: The

system disclosed in Rhodes can be used in providing customer support for a product

by receiving a textual query for a product from a customer and based on this query

retrieving the information in which the customer is interested. See also col.9, lines 50-

67. See also col.13, lines 41-48.) ".;

extracting one or more query key words from each of the queries, extracting one

or more answers from product FAQ's related to the received queries from a product

FAQ database, extracting one or more FAQ key words from the extracted answers

(see at least col.1, line 56-col.2, line 14, " *The RA works in two stages. First, the user's collection*

of text documents is indexed into a database saved in a vector format. These form the reservoir of

documents from which later suggestions of relevance are drawn; that is, stored documents will later be

"suggested" as being relevant to a document currently being edited or read. The store documents can be

any sort of text document (notes, Usenet entries, webpages, e-mail, etc.). ...... After the database is

created, the other stage of the RA is run from Emacs, periodically taking a sample of text from the

working buffer. The RA finds documents "similar" to the current sample according to word similarities; that

is, the more times a word in the current sample is duplicated in a candidate database document, the

greater will be the assumed relevance of that database document. The RA displays one-line summaries

of the best few documents at the bottom of the Emacs window. .... ". Note: The database

created with the collection of text documents corresponds to the claimed FAQ database

and the sample of text taken from the working buffer corresponds to the query from the

customer as claimed. Based on the text received from the user the RA extracts answers

from the created database and displays them to the user);

Rhodes further teaches transforming the extracted query and FAQ key-words

into unique numerical representations such that the transformed unique numerical

representations do not result in multiple similar numerical representations, to avoid

ambiguous prediction of meaning of the translated words in the received queries and

extracted answers (see at least col.4, line 42-col.5, line 11, " ...... *Each word in the wordvec*

*is represented by a unique numerical code........" * Also see col.12, lines 5-52, "

Vectorization......).

Rhodes discloses representing the transformed query and FAQ key-words into

query vector forms and product FAQ vector forms (see Rhodes at least col.1, lines 56-

col.4, line 3, "*......First, the user's collection of text documents is indexed into a database saved in*

vector format....... ... The RA, running within Emacs, takes a sample of text every few seconds from

current document being edited. This text sample is converted into a vector (called a "query vector") by

the four-step process set forth above. After computing the query vector,.... ").

Rhodes discloses automatically communicating the answers to the queries

received from the customer (see at least col.1, line 56-col.2, line 14, " *.... The RA finds*

documents "similar" to the current sample according to word similarities; that is, the more times a word in

the current sample is duplicated in a candidate database document, the greater will be the assumed

relevance of that database document. **The RA displays one-line summaries of the best few**

documents at the bottom of the Emacs window. .... ". Note: Displaying the answers to

the user in response to his queries corresponds to automatically communicating the

answers to the queries received from the customer. See also col.7, line 63-col.8, line 4

& col.13, lines 41-48.).

Rhodes discloses the use of an algorithm (see col.12, lines 53-67) to obtain one

or more appropriate answers to the queries but does not disclose applying a

convolution algorithm to each of the query vector forms, with each of the product FAQ

vector forms separately and obtains one or more appropriate answers to the queries.

Note: The convolution algorithm claimed in the instant application, to obtain the same

final result which can be reached by other algorithms as shown in Rhode is a mere

design choice and does not add to the patentability of the claimed invention. Use of

convolution algorithms is well-known to increase the speed of operation. Shah

discloses use of convolution algorithm in the same field of endeavor, i.e.(see at least

col.2, line 51-col.3, line 37) in calculating convolution of a Finite Impulse Response

[FIR] digital filter based on partial slicing of input data vector words and performing the

convolution in a distributed fashion. In view of Shah, it would have been obvious to a

skilled artisan in the art to have modified Rhodes to consider applying convolution

algorithm to transform query and FAQ key-words into query vector forms and product

FAQ vector forms, respectively and obtaining one or more appropriate answers to the

queries because the convolution algorithm speeds up the calculation with substantially

less hardware as explicitly suggested in Shah (see col.2, lines 42-48).

Regarding claim 2, Rhodes in view of Shah as applied to the method of claim 1

discloses that the product comprises: a product selected from the group consisting of

multiple products and multiple services (see at least col.1, lines 30-54, & col. 13, lines

41-48 which teach receiving a query from an user and in response to his query the

analysis module 133, see FIG.1, retrieves the documents, i.e. information relevant to

the user's query and this method and system can be applicable for a variety of

products and service (see further at least col.8, lines 14-67).

Regarding claims 3, Rhodes in view of Shah as applied to the method of claim 1

discloses that the method of claim 1, further comprising: receiving queries from the customer through inputs selected from the group consisting of a letter, a telephone, an e-mail and Internet and translating the received queries into a text (see at least col.1, lines 54-63, " *The store documents can be any sort of text documents[notes, Usenet entries, webpages, e-mail, etc.].....",* col.8, line 14- col.9, line 67 which discloses that the receiving queries could be either text or in video or I audio format and could be received by any possible means that is wired network or bodyborne electronic signals which obviously, to a person of an ordinary skill in the art would mean to include communication via Internet/telephone and queries being received in forms of letter, email, or spoken form. Further, either the received queries are entered in the form of text or the spoken queries are recorded to provide a text file and to store them in vector formats. Also see col.2, lines 25-53, col.13, lines 20-48.).

Regarding claims 4 & 5, Rhodes in view of Shah as applied to the method of claim 3 discloses manually entering the text in the received queries into a buffer/converting the received queries into a text (see Rhodes at least col.2, lines 25-53, col.10, lines 18-31, col.8, line 14- col.9, line 67, and col.13, lines 20-48). Rhodes in view of Shah as applied to the method of claim 3 does not disclose using a voice recognition system but for a person of an ordinary skill in the art it would be obvious to use a speech/voice recognition system to record and convert the audio queries disclosed by Rhodes so that the converted text queries can be vectorized as being done in Rhodes.

Regarding claim 6, Rhodes in view of Shah as applied to the method of claim 3

discloses storing the translated queries into a buffer (see Rhodes at least col.10, lines

18-31); categorizing the stored queries based on the type of query (see at least col.8,

line 27-col.9, line 18); and analyzing the categorized queries to determine whether the

queries can be answered automatically to the customer (see at least col. 1, line 56-

col.2, line 14, col.12, line 53-col.13, line 48 which teaches determining relevance of

each discrete vector in a query and using an algorithm to create a value of relevance

between 0.0 to 1.0 and then accordingly report the located information to the user

[already analyzed above]).

Regarding claim 7, Rhodes in view of Shah as applied to the method of claim 6

discloses categorizing the stored queries based on various categories selected from

the group consisting of product category, mindset of customer, topic, type of customer,

and nature of category (see Rhodes at least col. 8, line 27-col.12, line 51).

Regarding claim 8, Rhodes in view of Shah as applied to the method of claim 7 .

discloses manually communicating the answers (see at least col.1, lines 54-63, " *The*

store documents can be any sort of text documents[notes, Usenet entries, webpages, e-mail, etc.].....",.

Note: It would be obvious for a person of an ordinary skill in the art to select

communication methods based upon Rhodes disclosure comprising sending notes

manually, which correspond to sending a letter, an e-mail, webpages on Internet,

telephones or wireless communication.).

Regarding claim 9, Rhodes in view of Shah as applied to the method of claim 1

discloses extracting key-words based on specific criteria selected from the group

consisting of removing one or more general words from the queries and product FAQs,

removing all words including three or fewer letters, and removing one or more rarely

used words (see at least col. 2, lines 25-53 and col.5, lines 29-43. Note: Removal of

stop words in Rhodes correspond to the claimed limitation for removing one or more

general words and the example shown of "chopping " approach for removing an

indexed word in a document corresponds to removing one or more rarely used words.

Regarding claims 10-11, Rhodes in view of Shah further discloses replacing the

extracted key-words with appropriate synonyms, stemming the replaced key-words

using a Modified Porters Stemming Algorithm and applying it to each of the replaced

key-words until no more stemming can be performed on the replaced key-words. (see

at least col.2, lines 25-43, " *Stemming of words (changing "jumped" and "jumps" to "jump," for*

example This is preferably accomplished using the Porter stemming algorithm, a standard method in the

text-retrieval field. ... Step 2: Stem words This converts the text to "remembrance agent good agent"

...", and col.6, lines 47-54, " *...In the RA, only the words within an indexed document are used to*

determine relevance. In accordance with the present invention, by contrast, these documents may be

associated with a wide range of meta-information (i.e., information about the information), and it is this

meta-information that is used to determine relevance--either alone or, if desired, in combination with the

lexical comparisons implemented by RA .... ". Note: using lexical comparisons correspond to

extracting words with appropriate synonyms.).

Regarding claims 12-14, Rhodes in view of Shah as applied to claim 1, further

comprises : normalizing each of the transformed unique numerical based on

minimum/maximum values in the transformed unique numerical representations and

representing the vector forms using the normalized unique numerical representations

(see at least col.2, line 25-col.3, line 58 , " *Step 4: Normalize the vector........*".

Regarding claim 15, Rhodes in view of Shah as applied to method of claim 1,

comprises: representing a size of the vector forms based on a predetermined number

of key-words (see at least Rhodes col.2, lines 15-53 and col.12, lines 5-52).

Regarding claim 16, Rhodes in view of Shah as applied to method of claim 15,

teaches representing a size of the vector forms based on a predetermined number of

key-words. Rhodes in view of Shah as applied to method of claim 15 does not disclose

that the predetermined number is in the range of about 10 to 15 key-words. But

restricting the predetermined number I the range of about 10 to 15 key-words is a

design choice and does not add to the novelty/patentability of the invention as it can be

determined by a user depending on a particular requirement. Hence it shall be obvious

for a person of an ordinary skill in the art at the time of the applicant's invention to

restrict the predetermined number is in the range of about 10 to 15 key-words or to any

other range subject to his requirements.

Regarding claim 17, Rhodes in view of Shah as applied to claim 1 teaches applying the convolution algorithm further comprises: applying a self-convolution algorithm to each of the query vector forms to obtain resultant convoluted representation of the query; applying the convolution algorithm to the query vector form with each of the product FAQ vector forms to obtain resultant convoluted representation of the FAQ answers; and comparing the resultant convoluted representation of the query and the FAQ answers to determine appropriate answers to the queries .(see at least col.2, line 51-col.3, line 37). In view of Shah, it would have been obvious to a skilled artisan in the art to have modified Rhodes to consider applying convolution algorithm to the query vector form with each of the product FAQ vector forms to obtain resultant convoluted representation of the FAQ answers; and comparing the resultant convoluted representation of the query and the FAQ answers to determine appropriate answers to the queries because the convolution algorithm speeds up the calculation with substantially less hardware as explicitly suggested in Shah (see col.2, lines 42-48).

Regarding claim 18, Rhodes in view of Shah discloses that communicating automatically to the customer's queries comprises: automatically communicating the answers to the customers using communication methods selected from the group consisting of a letter, an e-mail, internet, and a telephone   (see at least col.1, lines 54-

63, " *The store documents can be any sort of text documents[notes, Usenet entries, webpages, e-*

mail, etc.].....",. Note: It would be obvious for a person of an ordinary skill in the art to

select communication methods based upon Rhodes disclosure comprising sending

notes manually, which correspond to sending a letter, an e-mail, webpages on Internet,

telephones or wireless communication.).

Regarding system claims 19-36, their limitations are closely parallel to the

method claims 1-18 and are therefore analyzed and rejected based on same rationale.

Conclusion

3.   The prior art made of record and not relied upon is considered pertinent to

applicant's disclosure.

(i)   US Patent 6,654,740 B2 to Tokuda et al. (see col.3, line 5-col.14, line 49)

teaches an automated customer support system by retrieving closest answers in

response to natural language queries from customers and providing those answers to

the customers using Porter Stemming algorithm, vectorization and normalization of the

text documents and can be used to render the claimed invention of the instant

application obvious.

(ii)   US Patents 6,560,590 to Shwe et al. (see at least col.1, line 1-col.2, line

50), 6,347,315 B1 to Kiyoki et al. (see at least abstract), 6, 493,711 B1 to Jeffrey (see at

least abstract), 6,587,848 B1 to Aggarwal et al. (see at least abstract), and 6,598,047

B1 to Russel et al. (see at least abstract) disclose an automated customer support system by retrieving closest answers in response to natural language queries from customers and providing those answers to the customers.

(iii)   Press release, " AI Makes Mark in Corporate World" ; Computerworld; May 18, 1992, Vol.26, Iss 20, pg.87, 2 pgs; extracted from proquest database on Internet on 7/11/2004 discloses "SMART" software to provide automated online trouble shooting by matching the characteristics of the customer trouble calls with those of past cases and their solutions to provide them to the customers.

(iv)   WO 99/21348 to MCI Worldcom discloses a method and apparatus for providing enhanced customer support for telecommunication services on a communication network (see abstract).

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Yogesh C Garg whose telephone number is 703-306-0252. The examiner can normally be reached on M-F(8:30-4:00).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Vincent A Millin can be reached on 703-308-1065. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the

Patent Application Information Retrieval (PAIR) system. Status information for

published applications may be obtained from either Private PAIR or Public PAIR.

Status information for unpublished applications is available through Private PAIR only.

For more information about the PAIR system, see http://pair-direct.uspto.gov. Should

you have questions on access to the Private PAIR system, contact the Electronic

Business Center (EBC) at 866-217-9197 (toll-free).

Yogesh C Garg
Primary Examiner
Art Unit 3625

YCG
July 17, 2004